AKW
life. style. choice.

UK

Luda® - Luda® S

8.5kW AKW Intelligent Shower®

INSTALLATION

Instructions & Service Manual

(For **User** Instructions read from back page)

LUDA®
AKW Intelligent Shower®

RNIB*

WRAS APPROVED PRODUCT

kiwa approved product

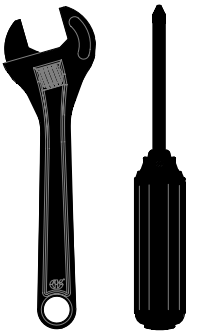
UK WATER SUPPLY REGULATIONS

BEAB CARE

BEAB EMC Verified

BEAB Approved

IP45



GB and International patents pending, EU Registered Design 000741558-0001/2/3/4, International and other Designs Pending.

*Luda® S does not carry RNIB Ref.

Read all instructions carefully **before** installation. Leave this booklet with the end user for future reference and servicing.

11-008-058-01

Contents	Page
Introduction	2
Important Safety Information & Requirements	3-5
Specifications	6
Features & Components	7
Main Components	8
Electrical / Water Requirements	9-12
Positioning of Shower	13
Shower Heater Main Components	14
Installation, Positioning & Fitting To Wall	15-16
Plumbing Installation	17
Water Priming	18
Electrical Installation	19-21
Commissioning	22-25
Fault Finding	26-28
Service Engineer Fault Diagnosis tables	29-32
Service Engineer Maintenance	33-34
Spare Parts / Installation Details / In-Service Tests	35-39
Warranty / Contact Information	8-9
User Care and Maintenance / User Fault Diagnosis	6-7
User Operating Instructions	2-5

INTRODUCTION

Take time to read these instructions thoroughly before starting installation and leave with the end user for future reference.
Shower installation must be carried out by a suitably qualified person (eg NIC EIC) and in accordance with these instructions.
This unit is the first BEAB Care shower which can be installed in the sprayhead splash zone because it has the higher IP45 (water resistance safety rating) and this is why there are more case screws. All case screws must be fitted.
Take time to complete the installation details and record the commissioning tests for future reference, see pages 36 & 37.

PLEASE READ ALL INSTRUCTIONS CAREFULLY AND IMPORTANT SAFETY INFORMATION BEFORE COMMENCING INSTALLATION

Warning

This product must be used and maintained in good working order in accordance with these instructions and recommendations.

IMPORTANT: Read all of these instructions. Ensure they are retained by the user for recording future maintenance or servicing.

This product is only suitable for mains fed COLD WATER.

DO NOT take risks with Plumbing or Electrical Installation.
Only competent trades persons should carry out this installation.

DO NOT install or operate shower if the location is liable to freezing.

DO NOT operate shower if water has leaked inside the unit before operation.

DO NOT remove shower front cover when in operation.

DO NOT operate the shower if water ceases to flow during operation.

DO NOT operate the shower if the spray head or hose is damaged.

DO NOT restrict flow out of the shower by blocking or obstructing spray handset.

The outlet must not be connected to any other parts or fittings other than EC1 Luda shower handset and Hose or EC2 Luda S shower handset and Hose.

Maintenance may be required before the appliance can be safely used. This is to be carried out by competent trades persons only. See service engineers section.

There are no user-serviceable components beneath the shower cover.
Only a competent trades person should remove this cover and use genuine AKW replacement parts. See spare parts section.
Isolate the electrical and water supplies before starting any work and review this installation guide or contact your installer:

- if the shower cover is not correctly fitted and water has entered the case,
- if the case or cover is damaged or broken,
- if the appliance shows signs of distinct change in performance, strange noises or begins to smell or smoke,

(Refer to "Contact Information" page 9 of the User Instructions and Warranty.)

IMPORTANT SAFETY INFORMATION

Caution! Danger of Death 230V AC
Lethal Voltage present on the AC supply.

This Appliance MUST BE EARTHED. Make sure any Supplementary bonding complies with the requirements for electrical installations and Wiring regulations in accordance with **BS 7671.**

Make sure mains power is off before installation.

This Appliance is intended to be permanently connected to the live wiring of the electrical mains supply system.

Other electrical equipment must not be connected to the same shower circuit.

This product must be installed by a qualified and competent electrician and in accordance with the current edition of the Wiring Regulations **BS 7671**.

Switch off at the isolating switch when not in use.

This is a safety procedure recommended with all electrical appliances.

It is recommended that the shower and installation is checked every two years by a competent electrician to ensure there is no deterioration due to age or usage.

Plumbing Precautions

The plumbing installation must comply with Water Fitting Regulations, Building Regulations and should be in accordance with **BS 6700**.

The optional hose retainer must be used to comply with the Water Fitting Regulations and prevent water supply contamination Category 5 installations where double check valves are not installed. Note that both Luda and Luda s have double check valves.

Make sure there is a **Cold Water** feed near to the installation with a local service isolation valve.

Chrome Plated or Stainless Steel Supply Pipes.

DO NOT connect the shower unit directly to chrome plated or stainless steel pipe.

Standard JG pipe connectors ARE NOT SUITABLE for connecting to CHROME or STAINLESS PIPEWORK.

AKW Recommend the use of a John Guest chrome pipe adaptor (Part No.25283. Top and Rear Entry only) or an equivalent.

Chrome plating must be completely removed 20mm before insertion into standard JG fittings. Always use the Collet Clips provided.

Flush the supply pipe prior to connecting the shower unit to remove any debris in the pipework.

DO NOT solder pipes or fittings within 110mm of the shower appliance.

DO NOT fit any form of outlet flow control to the water heater.

DO NOT use excessive force when making connections to the water supply inlet, the flexible hose or the spray head.

Complete all plumbing connections prior to making any electrical connections.

IMPORTANT SAFETY INFORMATION

NOTE: The manufacturer's rigorous quality systems may require operating the shower with water at the factory. The water shall be removed where possible, however there may be a small amount of water residue left in the shower.
A sealing pipe is used to prevent any excess water from entering inside and damaging the unit.

It is essential the commissioning procedure is followed carefully to prime the unit with water prior to switching on.
Failure to carry out this operation will result in damage to the unit and will invalidate the warranty.

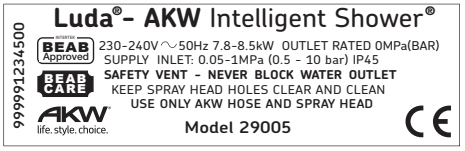
The shower must not be exposed to freezing conditions.
Make sure pipework is properly insulated.
If the appliance is frozen the warranty will be void.

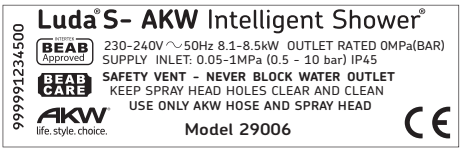
The unit must be mounted onto the finished wall surface (on top of the tiles).
DO NOT tile up to or around the unit after fixing to wall.

If the shower is installed in areas of hard water (above 200 ppm temporary hardness), a scale inhibitor may have to be fitted. For advice contact AKW Customer Service, Refer to **"Contact Information" page 9 of the User Instructions and Warranty.**

This product is not suitable for fitting in steam rooms.

Regularly clean the spray head with descalent, failure to do this may restrict water flow resulting in higher temperatures, this could also cause operation of the Pressure Relief Device (**PRD**).


Luda®- AKW Intelligent Shower®
999991234500
BEAB Approved
230-240V ~50Hz 7.8-8.5kW OUTLET RATED 0MPa(BAR)
SUPPLY INLET: 0.05-1MPa (0.5 - 10 bar) IP45
BEAB CARE
SAFETY VENT - NEVER BLOCK WATER OUTLET
KEEP SPRAY HEAD HOLES CLEAR AND CLEAN
USE ONLY AKW HOSE AND SPRAY HEAD
AKW life. style. choice.
Model 29005
CE


Luda®S- AKW Intelligent Shower®
999991234500
BEAB Approved
230-240V ~50Hz 8.1-8.5kW OUTLET RATED 0MPa(BAR)
SUPPLY INLET: 0.05-1MPa (0.5 - 10 bar) IP45
BEAB CARE
SAFETY VENT - NEVER BLOCK WATER OUTLET
KEEP SPRAY HEAD HOLES CLEAR AND CLEAN
USE ONLY AKW HOSE AND SPRAY HEAD
AKW life. style. choice.
Model 29006
CE

Locate the product identification label on the shower casing for completing the installation details on page 36.

Specifications

PLUMBING SUPPLY	Supply Source	Mains pressure cold water only
	Minimum Dynamic Pressure *	50kPa (0.5 Bar)
	Maximum Static Pressure	1000 kPa (10 Bar)
	Optimal Minimum Dynamic Pressure	100 kPa (1 Bar)
	Maximum Inlet Temperature	28°C
	Minimum Inlet Temperature	2°C
	Inlet Connection	15mm pushfit (John Guest Fitting)
	Outlet Connection	1/2" BSP Male thread Fitting
ELECTRICITY SUPPLY	Nominal Rating at 240 V	**29005**-8.5kW **29006**-8.5kW
	Supply Fuse / Circuit Breaker	**29005**-8.5kW 40A **29006**-8.5kW 40A
	Residual Current Device (RCD) Continuously Rated	30 mA (must be fitted)
	Supply Cable	Refer to current wiring regulations and BS 7671 to determine minimum cable size. No larger than 16mm^2
	Isolation Switch (e.g. Pull Cord)	45 Amp Double pole with 3mm contact separation.
	Height	435 mm
	Width	234mm
	Depth	110mm
	Water Ingress Rating	IP45
	Water and Cable Entry Points	Top, bottom or back.
	Shower Drain Pump Connections	Suitable for M Series, D4 (Flow Sensor) or AKW A4 (Flow Switch) connections on AKW products only.

* For Optimal Product Performance the recommended minimum dynamic water pressure should be 100kPa (1 Bar).

This Product Complies with the requirements of current British and European safety standards for household appliances, and has met the following harmonised european standards in the confirming assessment.

Complies with requirements of the British Electrotechnical Approvals Board (BEAB).

BEAB APPROVED / BEAB CARE / KIWA / RNIB / WRAS / IP45

BS EN 60335-1:2002, BS EN 60335-2-35:2002, BS EN 50366:2003

CE

Features & Components

The Intelligent shower has been designed specifically as a thermostatically controlled 'CARE' shower to meet the requirements of current British and European safety standards for household appliances.

This shower has a special water ingress safety standard rating, making this the first care shower to meet the IP45 (water resistance safety rating) and this why there are many case screws. All case screws must be fitted.
This shower also has an integral non-return value, so the shower hose does not need to be retained in anyway.
The Intelligent shower has a large ergonomic touch panel. This has been specifically designed to allow for easy operation. The large display panel clearly indicates the level of temperature and flow rate.

Temperature / flow rate
Adjusting the temperature may affect the flow rate.
The maximum flow rate for the given temperature may be greater in Summer than in Winter due to the warmer mains water supply.

Flow setting
The shower is adjusted in 3 stages- low, medium and high.

Phased Shut down
The power button will flash for around 5 seconds after being pressed as the system shuts down in an ordered manner and then turns off.

Auto shut down
The shower will automatically shut down after 30 minutes of operation. It can be restarted immediately.

Safety cut-out
The shower is fitted with an over-temperature safety device.

In the event of abnormal operation which could cause unsafe temperatures within the unit, the device will disconnect the heating elements.

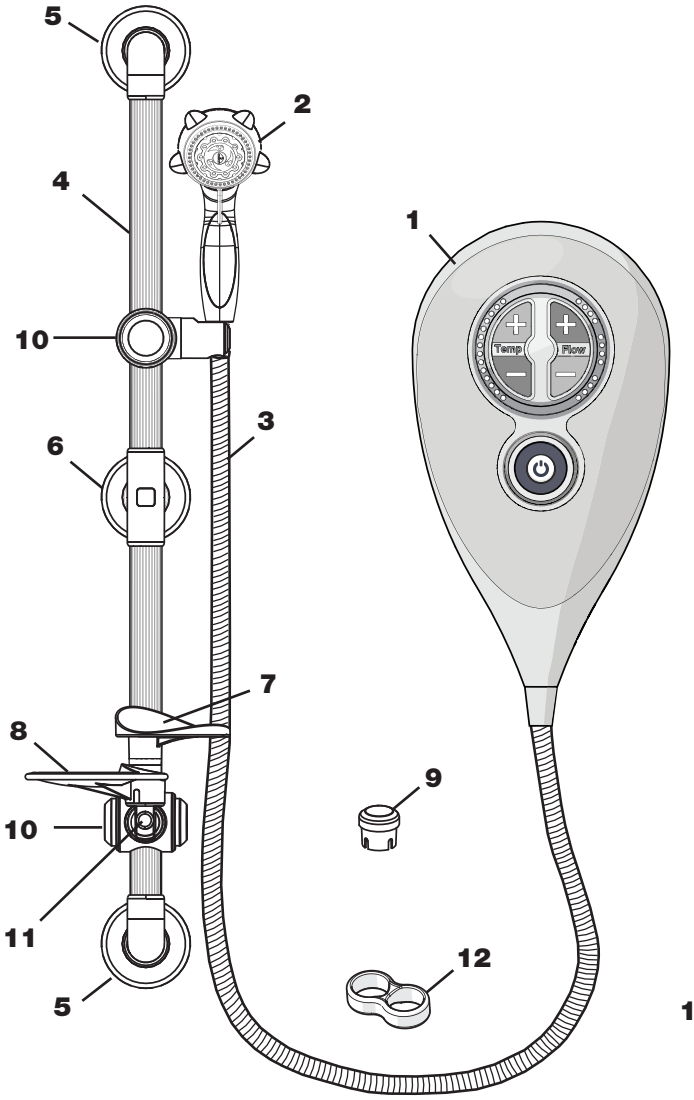
It will require a visit from a service engineer to determine the nature of the fault and replace the safety device.

Replacement parts can be ordered from Customer Services. See Spare Parts page 35. For more information refer to "contact information" page 9.

Due to the AKW policy of continuous improvement, this specification may be altered without prior notice.

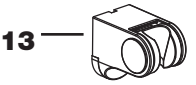
Main Components & Box Contents Checklist

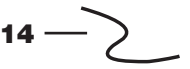
Check **all** packaging for screw packs and other parts

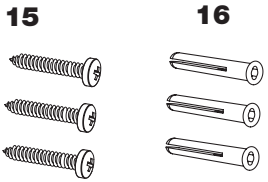


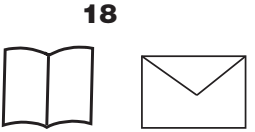
Box contents

1. Shower Unit
2. Shower Spray Head
3. Shower Hose
4. Riser Rail
5. 2x Grab Rail 90º Elbow
6. Grab Rail180º Elbow
7. Shelf
8. Soap Dish
9. Soap Dish Cover Cap (use if shelf not fitted)
10. 2x Rail Slider
11. Soap Dish Adapter Hook
12. Optional Hose Retainer (use if required)
13. Shower Head Wall Bracket
14. Pump signal wire Insulating Sleeve
15. 3x Wall Screws
16. 3x Wall Plugs
17. Instructions
18. Registration / Warranty Card & Envelope.









Electrical Requirements

Caution
Danger of Death 230V AC
Lethal Voltage present on the AC supply.

WARNING - THIS APPLIANCE MUST BE EARTHED

The installation, supply cable and circuit protection must conform to the current wiring regulations and be sufficient for the amperage required and length of cable run.

Before making electrical connections within the installation, ensure that the electrical supply has been isolated.

The shower must be connected to its own independent electrical circuit.
IT MUST NOT be connected to any other ring main, spur, socket outlet, lighting circuit or cooker circuit.

The electrical supply must be adequate for the loading of the unit and existing circuits.

Check your consumer unit (main fuse box) has a main switch rating of 80A or above and that it has a spare fuse way which will take the miniature circuit breaker (MCB) necessary for the shower (see schematic of installation circuit).

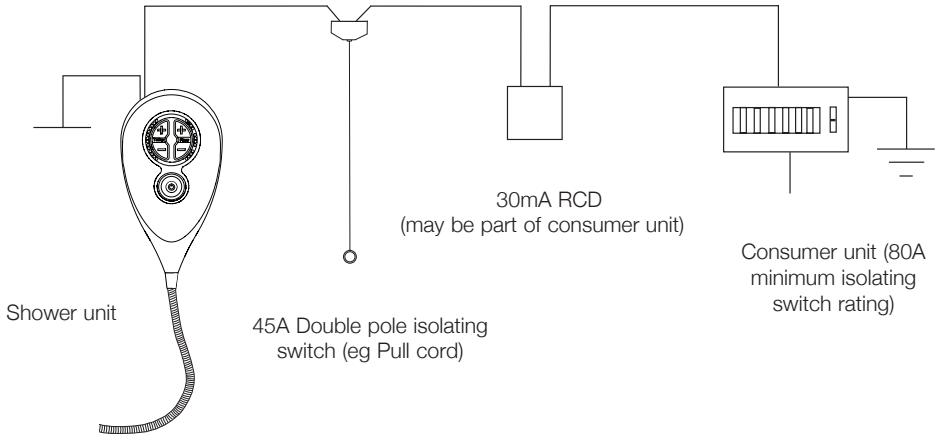
If your consumer unit has a rating below 80A or if there is no spare fuse way, then the installation may require a new consumer unit serving the house or just the shower.

Contact the local electricity company if in any doubt.

The earth continuity conductor of the installation must be effectively connected electrically, to all exposed metal parts of other appliances and services in the room in which the shower is to be installed. This must conform to current wiring regulations.

All the applicable exposed metallic parts in the bathroom must be bonded together using an earth cable of at least 4mm^2 cross sectional area, in accordance with the requirements of the wiring regulations. These parts may include metal baths, radiators, water pipes, taps and waste fitting.

Electrical Requirements


30mA RCD
(may be part of consumer unit)
Consumer unit (80A minimum isolating switch rating)
Shower unit
45A Double pole isolating switch (eg Pull cord)

All components must be rated and installed in accordance with wiring regulations. The appliance must be earthed.

For adequate circuit protection DO NOT use a rewireable fuse. Instead use a suitably rated miniature circuit breaker or cartridge fuse.

CIRCUIT PROTECTION -

29005	**8.5kW 240V AC**
29006	**MCB 40A**

A 30mA residual current device (RCD) must be installed.

A 45 amp double pole isolating switch with a minimum contact gap of 3mm in both poles must be incorporated in the circuit.

The isolating switch must have a mechanical indicator showing when the switch is in the OFF position, and the wiring must be directly connected to the switch.

The isolating switch must be accessible and clearly identifiable, but out of reach of a person using a fixed bath or shower, except for the cord of a cord operated switch and should be placed so that it is not possible to touch the switch body while standing in a bath or shower cubicle. It should be readily accessible to switch off after using the shower.
Where shower cubicles are located in any rooms other than bathrooms, all the socket outlets in those rooms must be protected by a 30mA RCD.
Consult the wiring regulations.

To obtain full advantage of the power provided by the shower, use the shortest cable route possible from the consumer unit to the shower.

WARNING - THIS APPLIANCE MUST BE EARTHED

The current carrying capacity of the cable must be at least that of the shower circuit protection.

Refer to the current wiring regulations BS 7671 to determine minium cable size.

Do not exceed 16mm^2 maximum cable size for this product.

Site conditions must be assessed by a competent electrician to determine correct cable size and permissible circuit length.

Shower circuit cable separation from other circuits must meet wiring regulations.

It is strongly recommended to use a minimum of 10mm^2 cabling throughout the shower installation.

Note: the electrical insulating sleeve supplied must only be used to insulate the pump signal wire, shown on page 20.

Failure to install this AKW product in accordance with supplied instructions or the making of any unauthorised modifications will invalidate any warranty and will affect product safety.

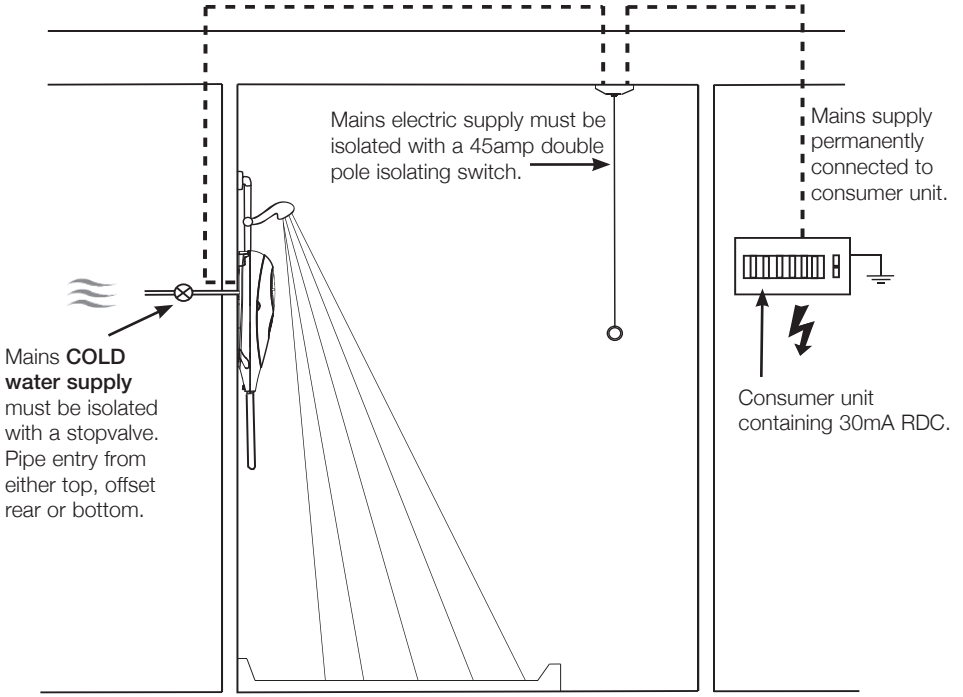
Water Requirements

The installation must be in accordance with Water Regulations and Byelaws.

To ensure activation of the heating elements, the shower must be connected to a mains cold water supply with a minimum running pressure of 50kPa (0.5 bar) at a minimum flow rate of nine litres per minute with a maximum static pressure of 1000kPa (10 bar). For Optimal Product Performance the recommended minimum dynamic water pressure should be 100kPa (1 Bar). Dynamic pressure should not fall below 50kPa (0.5 bar) when other draw offs are used (e.g. flushing toilet).

Note: An Isolating stop valve must be provided before connecting to the shower. We recommend that isolation valves (not supplied) must be fitted as close as is practicable to the water supply inlets of the shower heater whilst being accessible for maintenance and servicing purposes.

A typical system layout is shown below. Not to scale.


Mains electric supply must be isolated with a 45amp double pole isolating switch.
Mains supply permanently connected to consumer unit.
Mains **COLD water supply** must be isolated with a stopvalve. Pipe entry from either top, offset rear or bottom.
Consumer unit containing 30mA RDC.

DO NOT use sealing compounds on any pipe fittings for the installation. Never fit the appliance to the hot water supply.

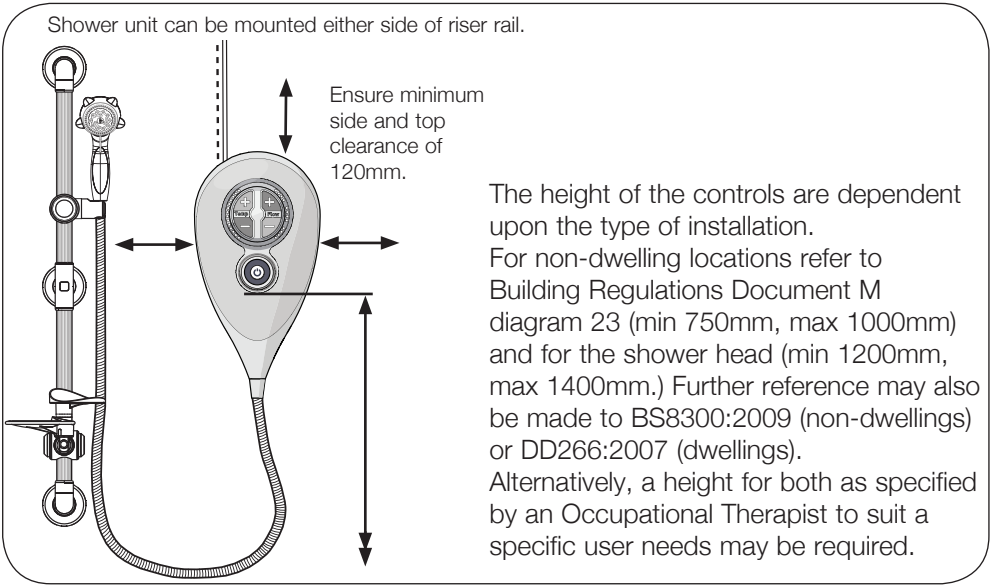
Note: If the stated flow rates are not available, it may not be possible to achieve optimum performance from the unit throughout the year.

Positioning of Shower

WARNING! The shower must not be positioned where it will be subjected to freezing conditions.

FOR EASE OF SERVICING, THE UNIT MUST ALWAYS BE MOUNTED ON THE FLAT SURFACE OF TILED WALLS. NEVER TILE UP TO THE SHOWER UNIT.

IMPORTANT: The flat surface **must** cover the full width and length of the back plate, otherwise difficulty may arise when fitting the cover and subsequent operation of the unit may be impaired.
Refer to the illustration below for correct positioning of the shower controls and showerhand set. Position the shower unit vertically.
Check there are no pipes or electrical cables inside the wall before drilling.



The height of the controls are dependent upon the type of installation.
For non-dwelling locations refer to Building Regulations Document M diagram 23 (min 750mm, max 1000mm) and for the shower head (min 1200mm, max 1400mm.) Further reference may also be made to BS8300:2009 (non-dwellings) or DD266:2007 (dwellings).
Alternatively, a height for both as specified by an Occupational Therapist to suit a specific user needs may be required.

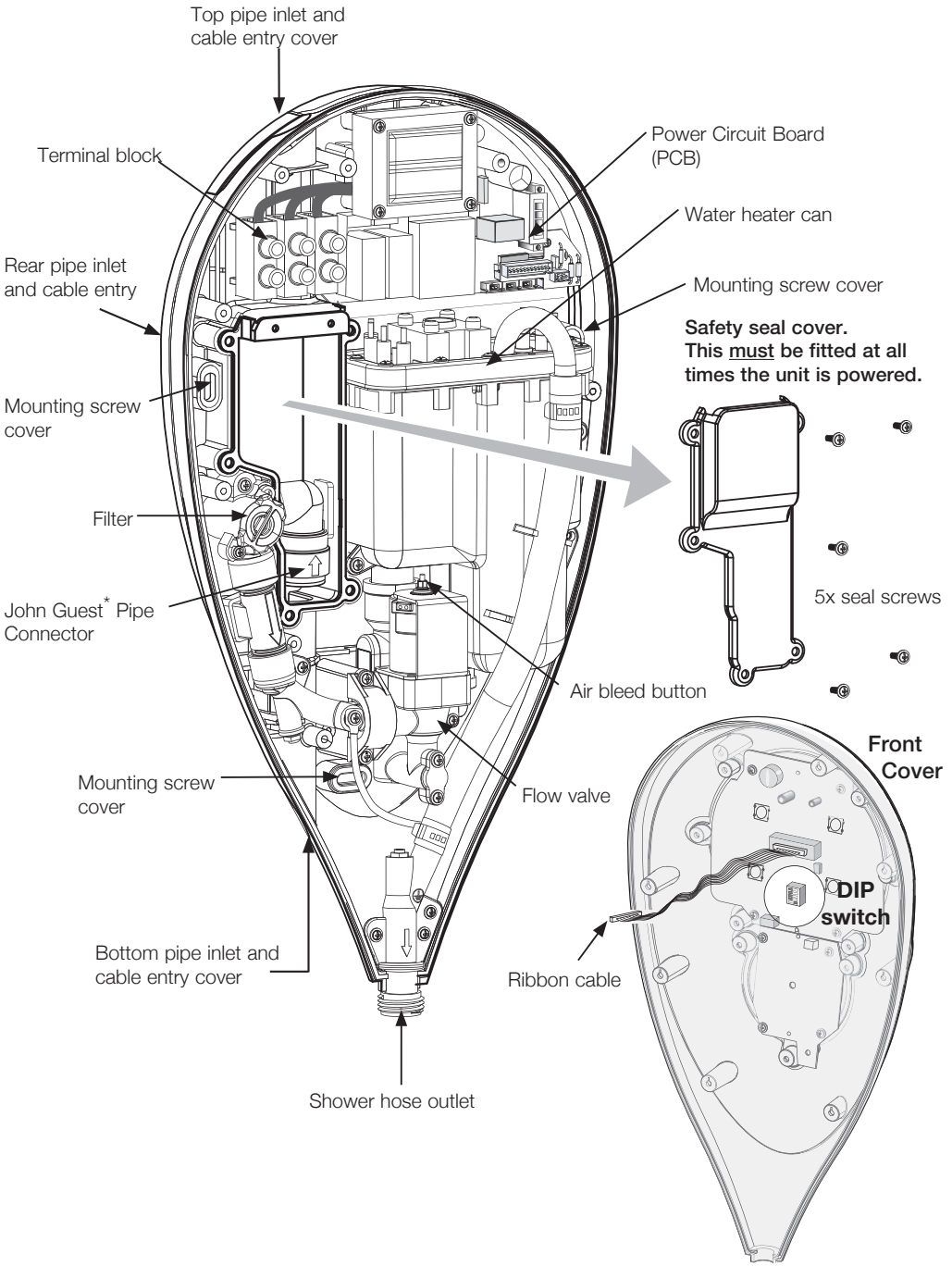
DO NOT obstruct the back and sides of the shower as this will prevent the Pressure Relief safety Device from operating.

DO NOT operate the shower with a damaged or kinked shower hose, or a blocked spray head which can cause the Pressure Relief Device (PRD) to operate.

When commissioning, the spray head must be removed from the flexible hose. Failure to follow this procedure may cause the PRD to operate.

Ensure the unit is positioned over a bath or shower tray.
If the Pressure Relief Device operates, switch the unit off at the pull-cord and contact Customer Service for advice on replacing the PRD.

Shower Heater Main Components



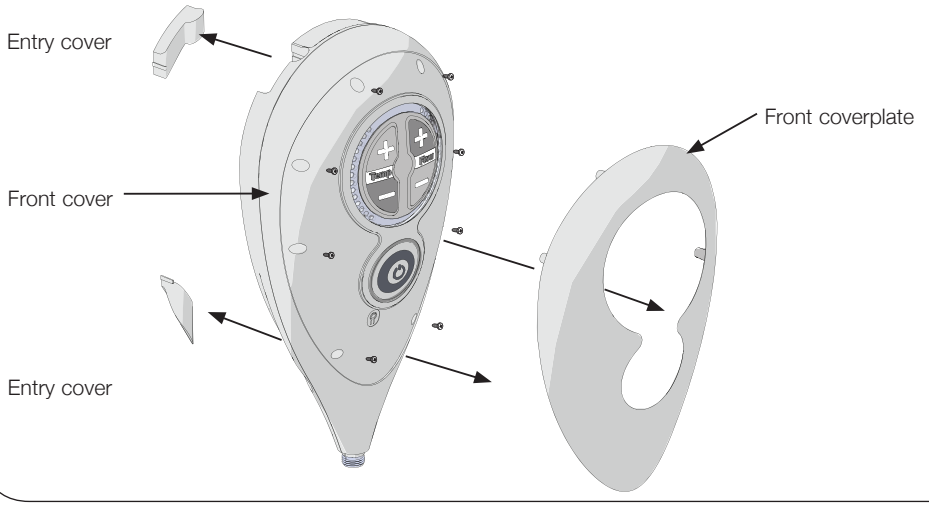
Ensure that the electrical supply is switched off at the mains.

Ensure that the water supply is turned off.

Step 1

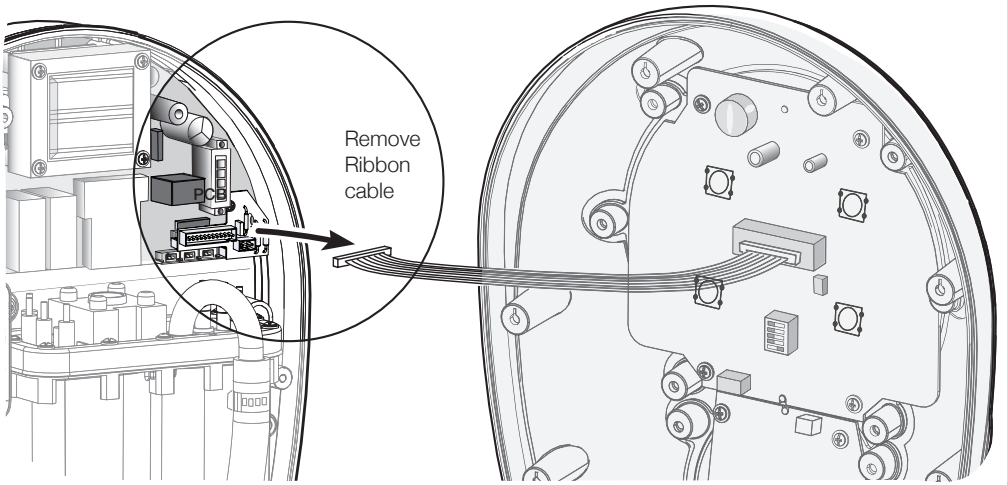
Determine the positioning of the cable and water-pipe entries. Lift off the front coverplate and entry covers.

Disassemble shower to get to the components by removing the front coverplate and unscrewing the front cover from the main body. Retain all the screws for IP45 rating.



Step 2

Disconnect the ribbon cable from the PCB to separate the front cover from the shower.



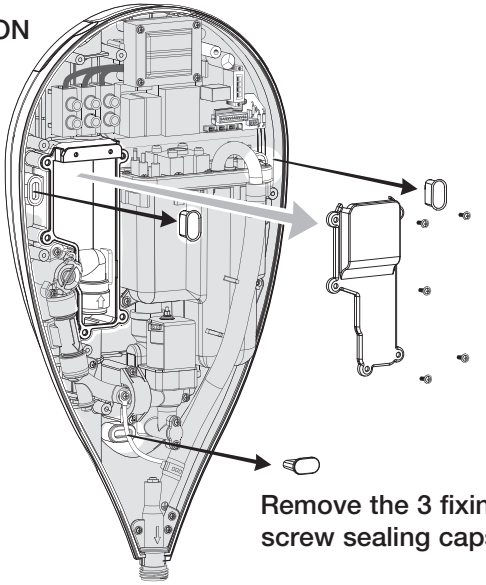
Step 3 CASE PREPARATION

Remove the Safety Seal Cover (5 screws) and determine the positioning of the cable and water-pipe entries.
Turn the John Guest* Inlet Connector to suit supply pipe. See step 5.

Remove sealing caps.

Choose the shower location.

Only seal between the pipe and the wall to prevent water entering the wall for back entry.



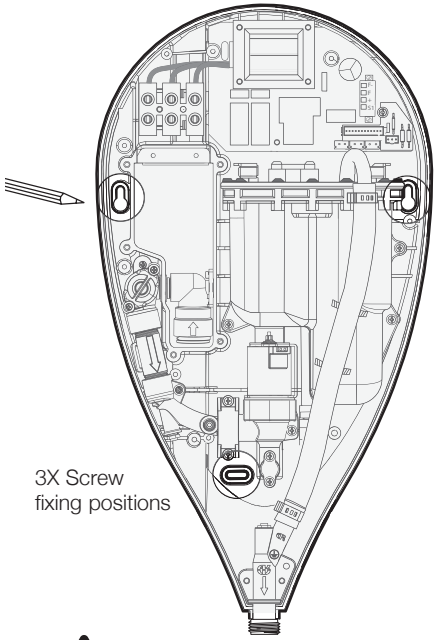
Remove the 3 fixing screw sealing caps.

Step 4

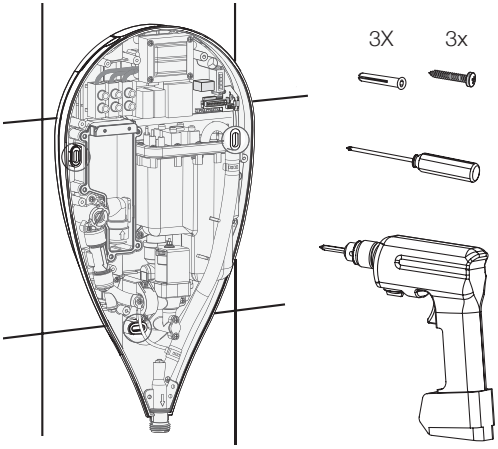
Use the back plate as a template, ensure it is vertical. Mark the fixing holes ensuring the cable and pipe positions align with the entry positions on the shower. Drill and insert wall plugs taking care there are no hidden cables or pipes.

Route the Sensor cable for the drain pump (if applicable). See page 20.

Use all 3 screw fixing positions.



3X Screw fixing positions



Caution! Do not drill into cables or pipes.

Important! Replace the 3 fixing screw sealing caps.

Step 5

PIPEWORK CONNECTION ONLY SUITABLE FOR COLD WATER SUPPLY

*John Guest and Speedfit are registered trade marks of John Guest International Limited.

WARNING! Do not use a silicone sealant to seal between the unit case and the wall

Remove the sealing pipe from the John Guest* fitting.

Note: The sealing pipe is used to stop any excess water from entering inside and damaging the unit. See page 5.

Separately flush the pipework to remove any debris **before** firmly connecting the deburred end of the waterpipe onto the John Guest* fitting, ensuring the pipe is fully engaged.

Following all the normal John Guest Speedfit* assembly precautions and instructions.

Always fit the locking collet clip to the collar.

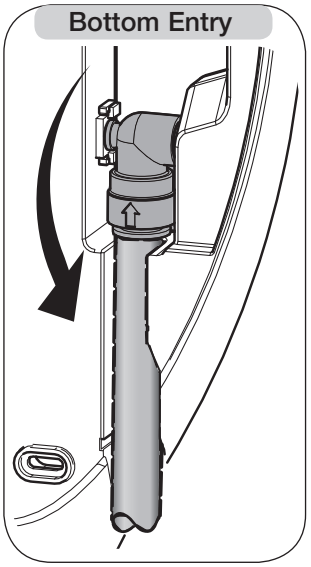
Locking collet

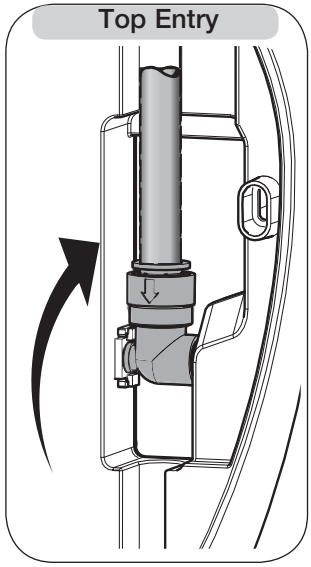
The pipe fitting is not suitable for direct connection to chrome plated or stainless pipe.

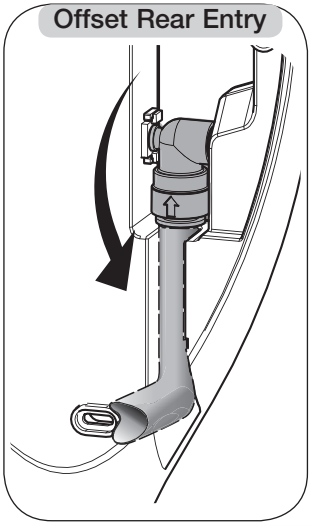
Note: Offset Rear entry pipe is only recommended for ease of installation and servicing if the top or bottom entries are not possible. If a soldered Elbow connector is used then this should be minimum 110mm from the JG inlet connector. This pipework must not apply strain to the elbow fitting on the shower. Failure to observe this essential precaution will invalidate the warranty.

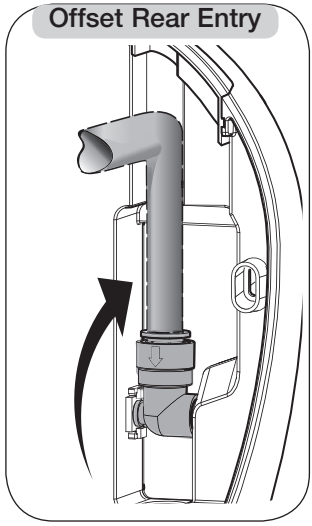
Ensure the shower is securely fixed to the wall and is vertical. Replace the 3 Fixing screw sealing caps. Connect the hose, but not the handset.

Point the hose into the bath or shower tray without the handset.









Note: An Isolating stop valve must be fitted to the **cold** water supply pipe to allow for maintenance and servicing.

Chrome plating must be completely removed 20mm prior to insertion into a Standard JG fitting; alternatively use a male stem pipe adaptor (Spare Part No.25283. Top and Rear Entry only).

WATER PRIMING

Step 6 WATER PRIMING PART 1 (SEE PAGE 23 FOR PART 2)

Important! This unit must be primed with water before installing the electricity. Make sure electricity is isolated!

Turn on the water supply and check there are no leaks - no water should flow through the shower at this point.

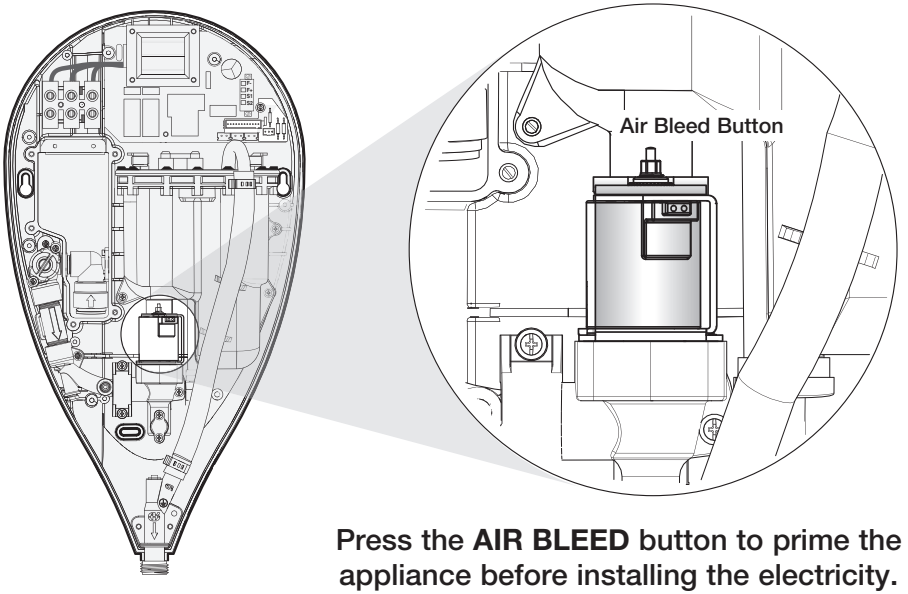
Place absorbent material around the air bleed button area.

Gently press down the **AIR BLEED** button to vent air from the appliance until **water** appears.

Once you have checked that there are no leaks **Turn off** the water supply before installing the electricity.

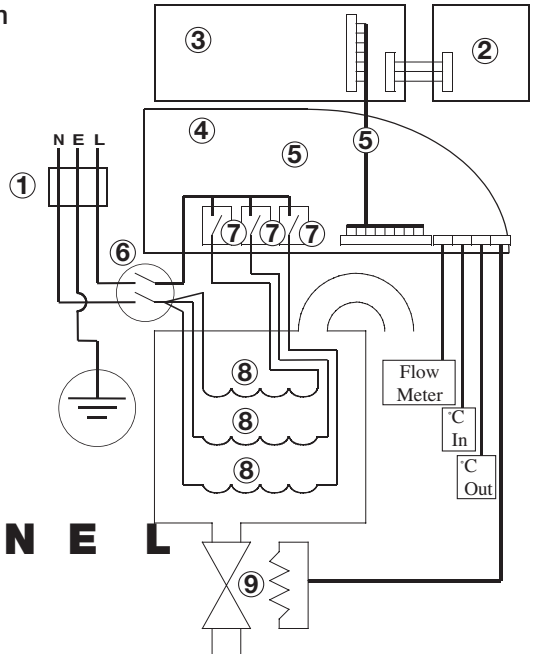
Failure to prime will seriously affect the shower performance.

Dry off any water in and around the appliance before connecting or reinstating the electricity.



Press the AIR BLEED button to prime the appliance before installing the electricity.

System Wiring Diagram

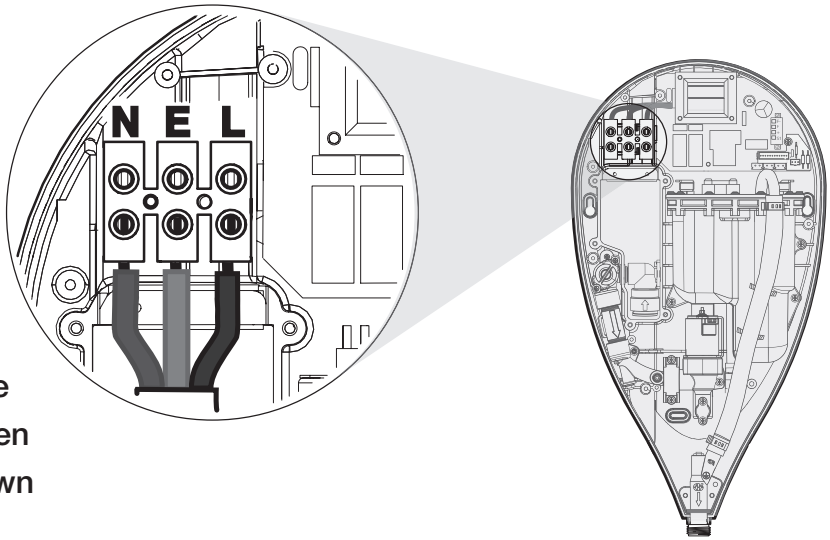


1. Terminal Block
2. On/Off PCB
3. Control PCB
4. Power PCB
5. Ribbon Cable
6. Thermal Cut-out
7. Relays
8. Elements
9. Solenoid Valve

Ensure the terminal screws are fully tightened and no insulation is trapped in or under the screws.

The earth connector must be sleeved.

The supply cable must be secured in accordance with current wiring regulations.



N = Blue

E = Green

L = Brown

AKW Pump Signal Cable Connections (optional)

Make provision for the sensor cable to connect the pump to the shower (If Applicable.)

Ensure the sensor cable is fed into the bottom entry of the shower and sealed by the safety seal cover.

Flow Sensor Connections- M Series Digi Pump & D4 Pump

Black **(-** ve**)** - connect flow sensor wire to **F+**

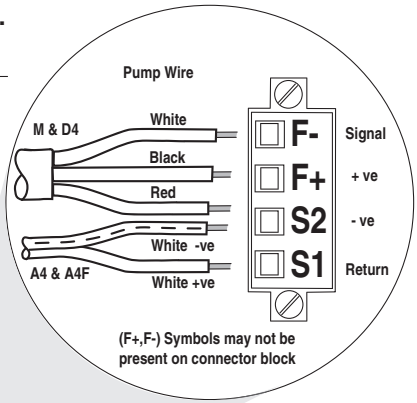
White **(Signal)** - connect flow sensor wire to **F-**

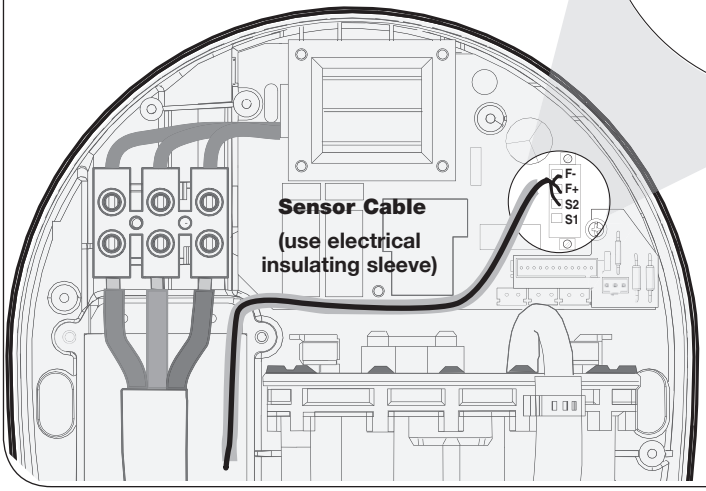
Red **(+** ve**)** - connect flow sensor wire to **S2**

Flow Switch Connections- Manual Pump A4 Series

(- ve**)** White **-** connect flow switch wire to **S2**

(+ ve**)** White **+** connect flow switch wire to **S1**

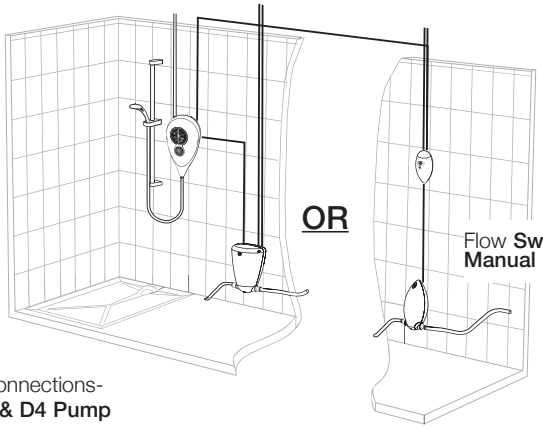




Ensure AKW **Pump Sensor cable** is covered by the supplied insulating sleeve before connecting to the pump terminal block on the PCB.

Flow Sensor or Switch Signal Cable Connections (optional)

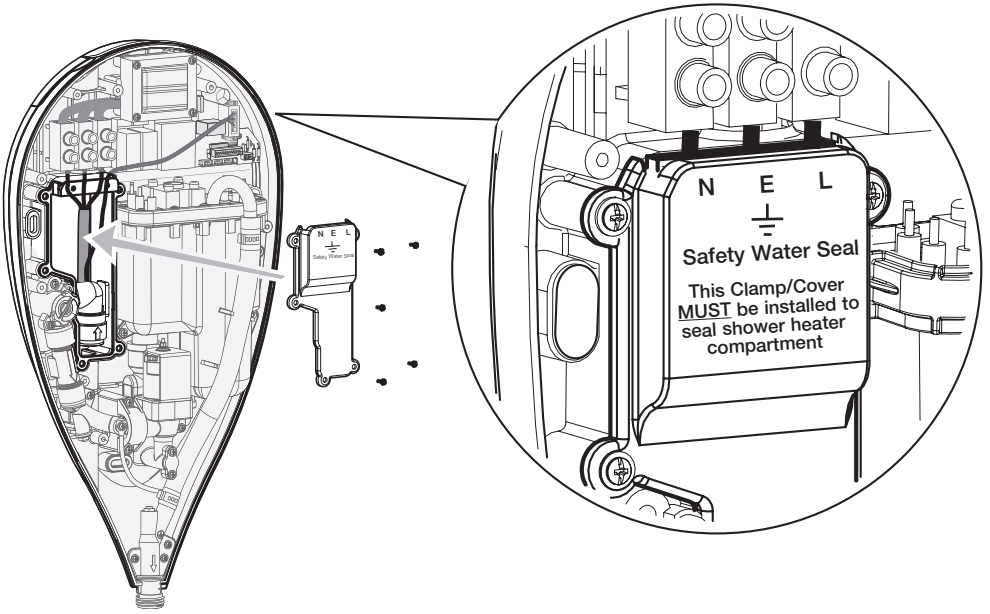
Refer to correct Pump Installation Instructions



Flow **Switch** cable connections- **Manual Pump A4 Series**

Flow **Sensor** cable connections- **M Series DigiPump & D4 Pump**

Trim and replace pipe and cable entry covers.
Refit the safety seal cover securing the power cable in place.
Important: This seal must be fitted. Use the correct screws to secure the water seal cover. **All 5 screws must be fitted to achieve water seal rating IP45.**



Ensure that the mounting screws and seal fixings are fully tightened.

Make sure the shower unit is fixed firmly in correct position.

Confirm the 3 wall fixing screw sealing caps have been replaced.

DO NOT seal around the appliance.

DO NOT switch on the power supply.

Important! Make sure and check that the shower has been primed.

Continue with commissioning.

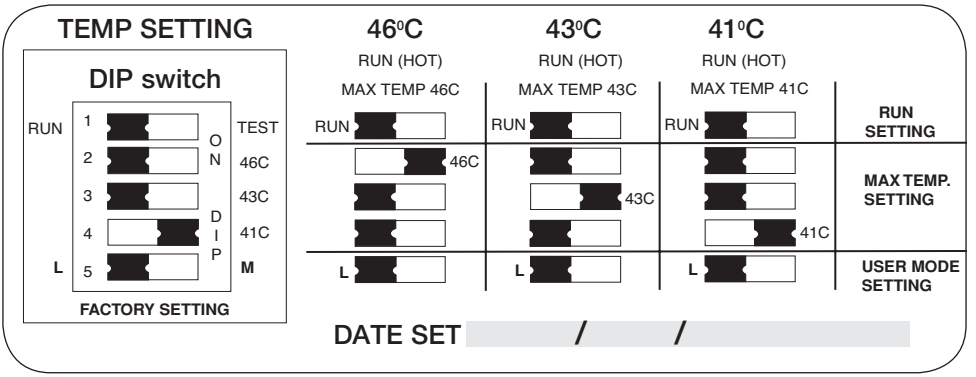
Commissioning

Important! Commissioning must be completed before normal operation.

Make sure electricity is isolated before Commissioning.

Step 1 Maximum Temperature Setting and User Mode Setting

This shower has been factory preset to deliver a Maximum Outlet temperature of 41°C. If the appliance is to be operated with a different maximum temperature setting, AKW recommend that you carry out the procedure detailed below. The shower maximum water temperature can be between 41°C - 46°C by setting the middle 3 DIP switches located on the control PCB inside the front cover. Set the required temperature setting. **Note to comply with BEAB Care Standard the shower should be set to 41°C maximum temperature.**



User Mode setting

The shower can have two user settings. The bottom DIP switch can be set to **L** or **M** and the shower operation will be as follows:

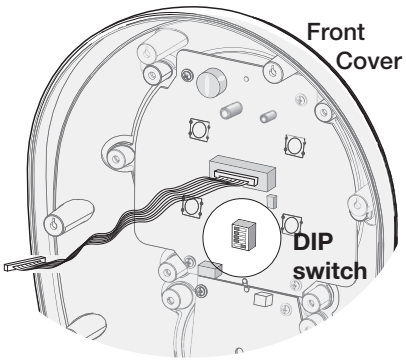
L = Last user Mode. When started the shower settings will be on the last temperature and flow settings used when the shower was last turned off.

M = Mid-point Mode. When the shower is started it will always start at the mid temperature point between the maximum and minimum temperature setting.

The shower will start on the flow setting last used when the shower was turned off.

Write the date set in the table above and then write the set temperature into the maximum temperature setting box on page 4 of the user section so that the user will know what the maximum temperature is set to.

Important: Record Commissioning results, see page 37.

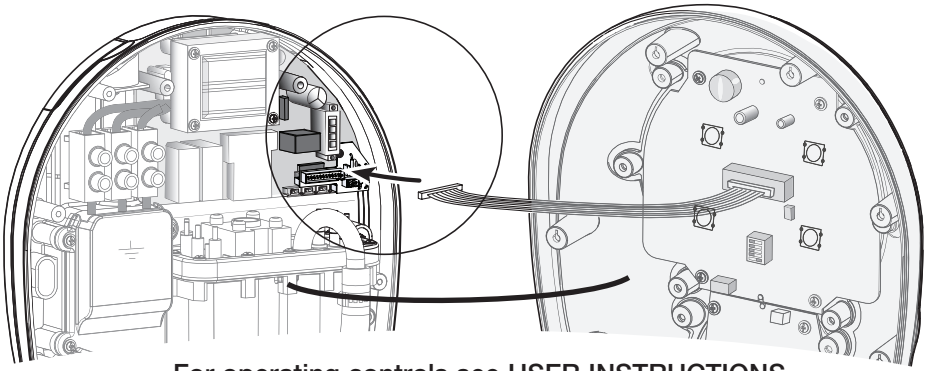


Commissioning

Carefully re-connect the ribbon cable to the Power Circuit Board (PCB).

Ensure all connectors are correctly inserted before the cover is refitted. Refit the front cover taking care not to trap the ribbon cable or any other wires.

A**ll cover screws** must be fitted to maintain IP45 rating.
Connect the hose ONLY. DO NOT connect the shower handset yet.
Turn on the water.



For operating controls see USER INSTRUCTIONS

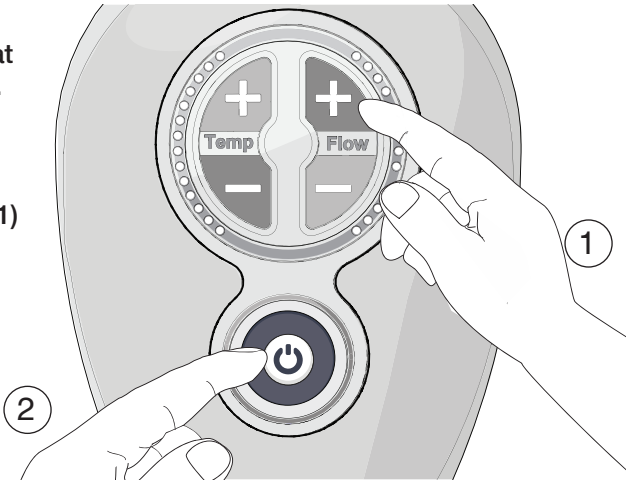
CHECK IMPORTANT SAFETY INFORMATION PAGE 3 BEFORE OPERATING

Step 2

WATER PRIMING PART 2 - See water priming part 1 page 18

Turn on power at pullcord/Switch.

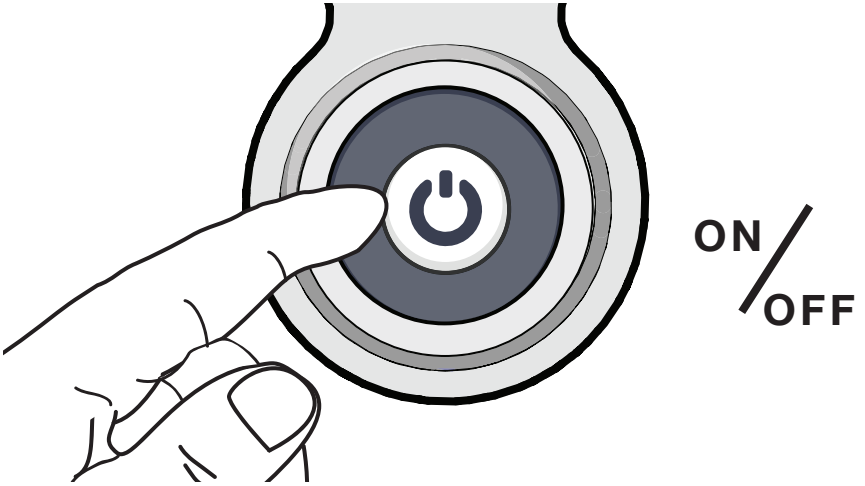
Hold down the Flow Increase button (1) and press the Power Button (2) at the same time.



Release both buttons and cold water will then flow through the unit.
Allow the shower to run until a smooth flow is achieved, should take about 1 minute.
Press the Flow Decrease button to stop the water flow.

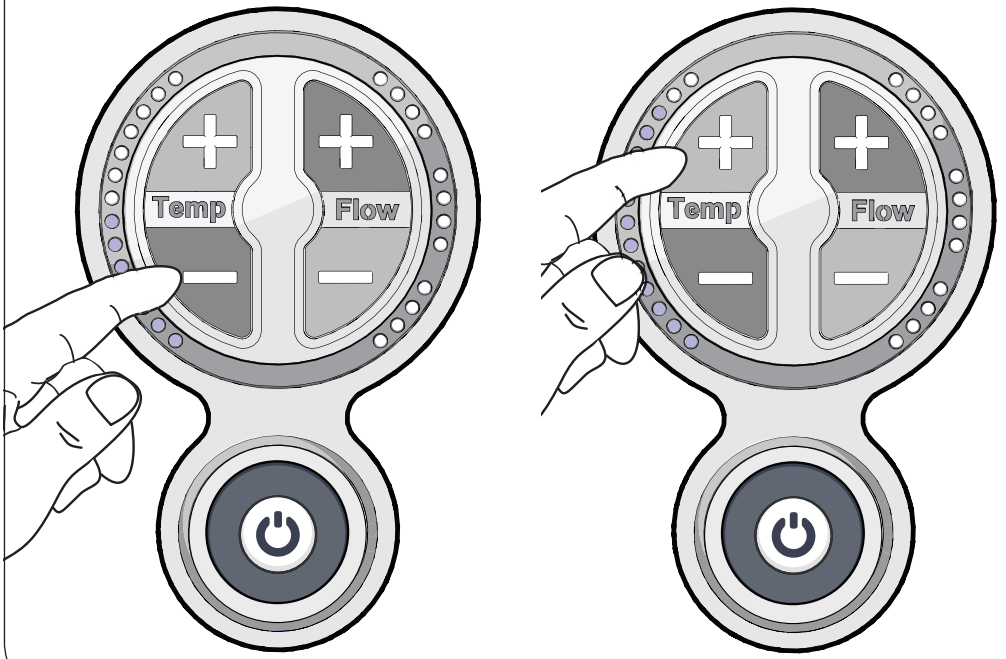
Step 3

Switch on the shower by the ON / OFF push power button.



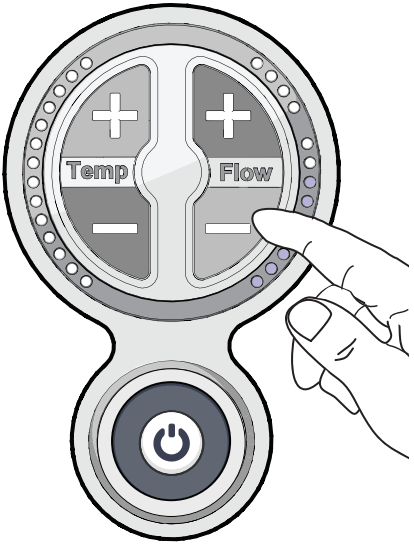
Step 4

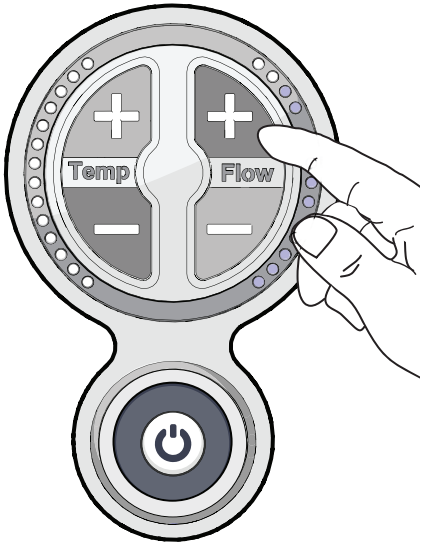
Test the shower settings by pressing the **Minimum** temperature and **Maximum** temperature buttons several times.



Step 5

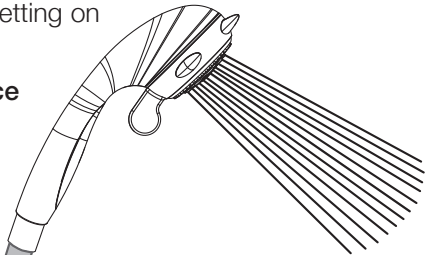
Test the **flow** to **minimum** and **maximum** by pressing the **Decrease** and **Increase flow** buttons several times. Set to HIGH by pressing the increase button.





Turn off the shower to fit the shower handset. Only fit either EC1 Luda handset and hose or EC2 Luda S handset and hose.
Turn shower back on with the shower handset setting on massage and test the temperature.

For shower head adjustment and maintenance see separate shower fitting instructions.



Final Checks for commissioning.

Check all plumbing connections are secure.
Check that electrical connections are fully tightened.
Make sure that no pipework or cables have prevented the cover locating correctly onto the backplate.
Confirm all screws have been securely fitted to the safety seal and front cover.
Make sure the shower has been primed.
Make sure water supply is fully turned on.

Please complete the Installation details and record the commissioning tests to provide a performance reference point for future tests.
See pages 36 & 37.

Fault Finding

Check Commissioning Tests have been completed and recorded. Check final checks have been applied to the appliance.

DO NOT operate the shower if frozen.

DO NOT operate the unit if the spray head or hose is damaged.

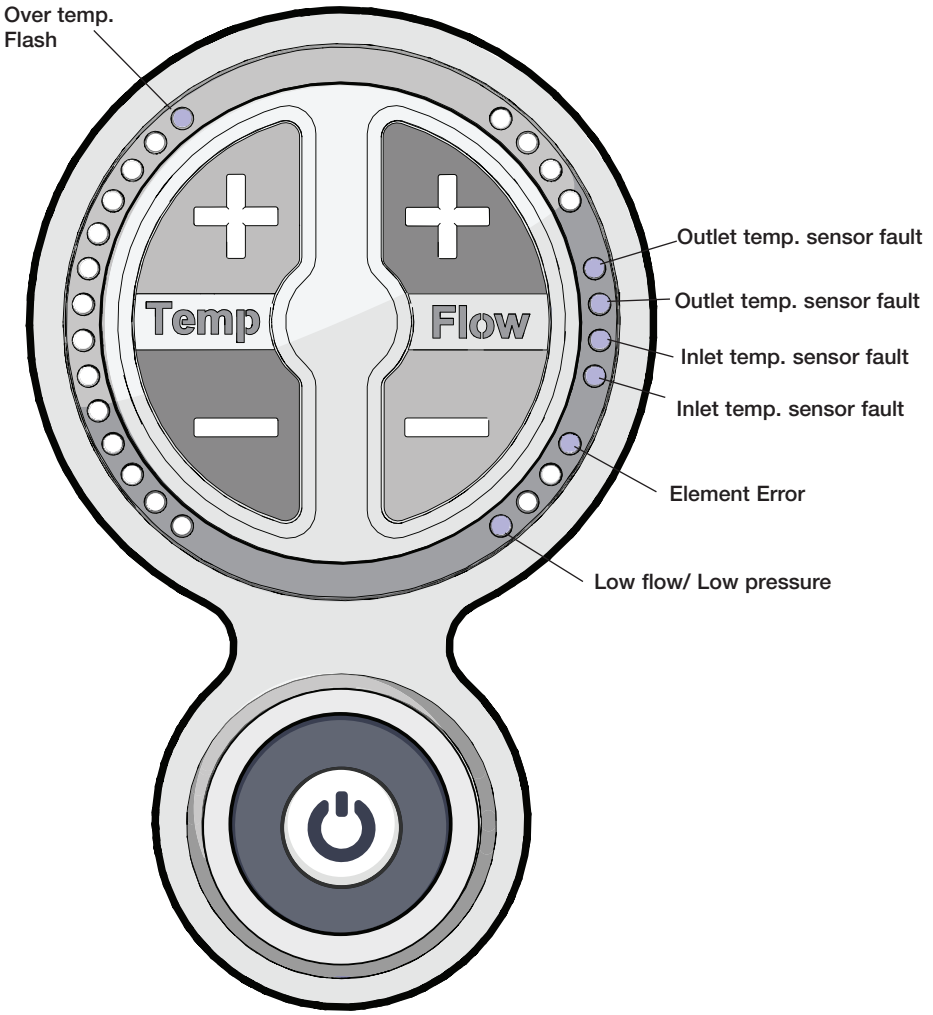
DO NOT restrict flow out of shower by blocking or obstructing the spray head.

DO NOT operate the shower if water ceases to flow during use or if water has leaked into or from the case.

In the event that the shower fails to respond to any push-button instruction or exhibits unusual performance characteristics during operation, first turn off the electrical supply by operating the pull-cord switch or isolating switch, wait for 20 seconds for the shower to reset, then turn the power back on and operate the shower. If the problem still persists then refer to Fault Diagnosis.

Fault Indicators

Note: Fault signals are assigned to these lights.

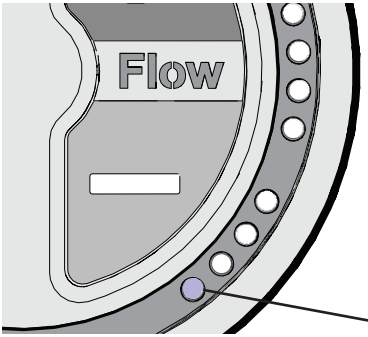


Fault Finding

Electric showers work by taking in cold water and passing it over heating elements contained in the water tank within the body of the shower.

Seasonal changes in the temperature of the incoming cold water supply and the water flow rate may mean that thermostatic control settings of the unit may need adjusting from time to time to maintain a consistent output.

Low Pressure Failure
The shower contains a 'LOW PRESSURE' indicator which will operate, if the following conditions occur:



Low water pressure (below 0.5 bar maintained).

Blocked or partially blocked spray plate.

Blocked inlet filter.

If any of the above conditions occur, the unit will STOP.

(Low Flow/Low Pressure)

Overheating

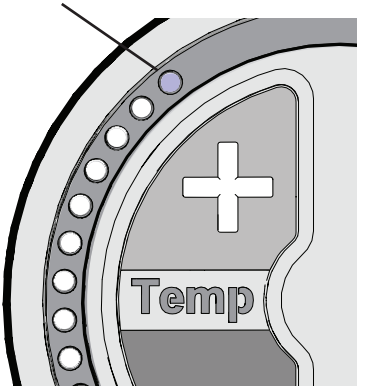
The shower is fitted with an over-temperature indicator and safety cut-out device.

In the event of abnormal operation which could cause unsafe temperatures within the unit, the device will disconnect the heating elements.

If the water temperature rises above the desired maximum setting the Over Temp. light will flash. The shower will control the water temperature back to the desired level.

If the water temperature rise is uncontrolled the shower will turn off to prevent an unsafe temperature and the Over Temp light will flash immediately. The shower will not turn back on until the water inside the unit has cooled to a safe level.

(Over Temp Flash)



SERVICE ENGINEERS FAULT DIAGNOSIS

WARNING! There are no user serviceable components beneath the cover of the shower. Only a service engineer should remove the cover. If any fault happens, the indicator on the right side will illuminate indicating the fault, please see the diagram on page 27.

THE FOLLOWING TESTS SHOULD ONLY BE PERFORMED BY A COMPETENT PERSON OR SERVICE ENGINEER.

UNDER NO CIRCUMSTANCES SHOULD A USER PERFORM ANY OF THE FOLLOWING TESTS.

Please read the section "**Important Safety Information**" on page 3.

WARNING! Isolate the electrical and water supply before removing the cover.

WARNING! 230V AC Mains connections are exposed when the cover is removed.

WARNING! Refer to wiring diagram before making any electrical changes or connections.

WARNING! Ensure all electrical connections are tight to prevent overheating.

WARNING! Ensure all plumbing connections are watertight.

Maintenance must be carried out by a competent tradesperson who must use the fault diagnosis chart, wiring diagram and maintenance instructions. Before replacing any parts ensure that the underlying cause of the malfunction has been identified and confirmed.

When following these instructions, it is sometimes necessary to examine the shower with the electrical supply turned on, as well as the water supply. It is therefore essential that the appropriate safe working practices are followed in accordance with the current Health And Safety Legislation. Water flow from the shower must be safely directed away to the drain without obstructing the flow in any way.

Use a device for measuring continuity (DVM, AVO Voltmeter), to perform the any of the following tests.

SERVICE ENGINEERS FAULT DIAGNOSIS

Malfunction	Cause	Remedy
Shower not working, no water flow, no lights.	Main supply MCB or RCD has operated.	Rectify the fault causing the safety device to operate. Reset RCD or MCB.
	Interrupted power supply to building.	Check other appliances, contact local Electricity Company.
	Shower component Malfunction.	Have the unit checked by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.
	Thermal cut-out operation.	
No Water, or very low flow.	Inlet filter blocked with debris.	Have the filter removed and cleaned.
	Insufficient water supply pressure.	
	Flow valve malfunction.	Have the unit checked by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.
	Faulty or incorrectly fitted ribbon cable.	
Water continues to flow/drip from showerhead after shower has been turned off.	Flow valve malfunction.	
Water leaks from shower case bottom	Pressure relief device has operated.	
	Internal components have failed.	Stop using the shower immediately and have the unit checked by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.

SERVICE ENGINEERS FAULT DIAGNOSIS

Malfunction	Cause	Remedy
User controls do not function, lights do not illuminate or audible tone is not heard.	Control PCB Malfunction.	Have the unit checked by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.
	Ribbon cable malfunction	
Water too hot.	User temperature control is set too high.	Reduce the temperature using the temperature down button.
	Maximum temperature switch setting is too high for the user requirement.	Have the unit checked and reset by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.
	Faulty component.	
Water too cold.	User temperature control is set too low.	Increase the temperature using the temperature up button.
	Maximum temperature switch setting is too low for the user requirement.	Have the unit checked by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.
	Faulty component.	
Shower Flow fluctuates continuously.	Air trapped in supply pipework. Faulty inlet sensor.	
	Debris in flow valve.	
	Supply pressure above 1000 kPa	Fit a pressure reducing device.

SERVICE ENGINEERS FAULT DIAGNOSIS

Malfunction	Cause	Remedy
Pressure Relief Device has operated.	Blocked showerhead.	Have the unit checked by a qualified service engineer and renew flow valve. Contact AKW Customer services for spares and check Guarantee.
	Hose malfunction.	Have the unit checked by a qualified service engineer. Replace the PRD. Contact AKW Customer service for spare parts.
Low Flow Fault indicator light on.	Insufficient water flow available	Check showerhead is not blocked.
		Check shower hose is not restricted.
		Check inlet filter is not blocked.
		Check water supply to shower is adequate.
Element error indicator on.	Element error.	Have the unit checked and reset by a qualified service engineer. Contact AKW Customer services for spares and check Guarantee.
Temperature sensor error lights.	Temperature sensor malfunction.	

SERVICE ENGINEERS MAINTENANCE

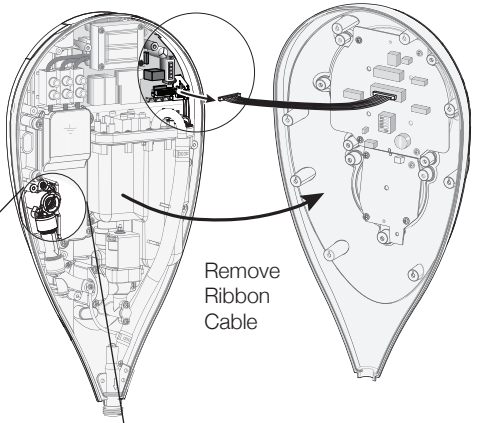
INLET FILTER CLEANING OR REPLACEMENT

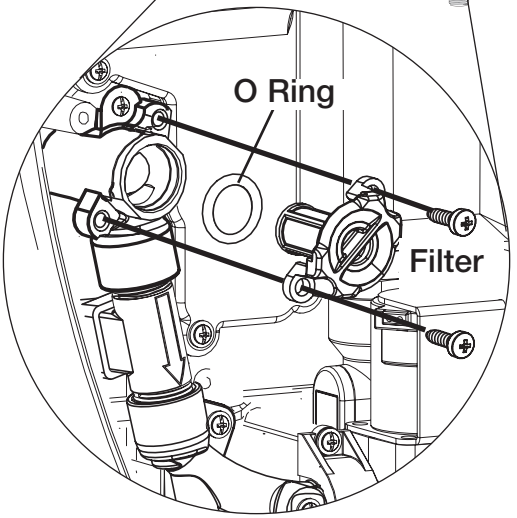
READ IMPORTANT SAFETY INFORMATION PAGE 3 FIRST

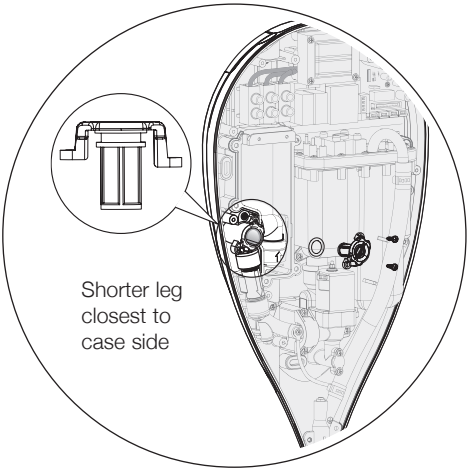
Ensure that the electrical supply is switched off at the mains supply.

Ensure that the water supply is turned off.

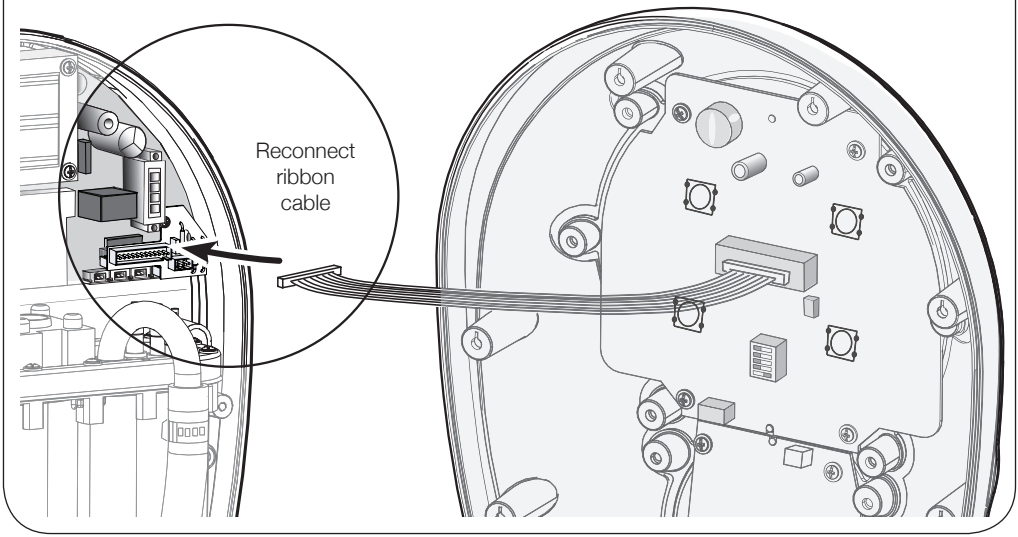
Remove the cover plate and disconnect the ribbon cable from the power PCB.





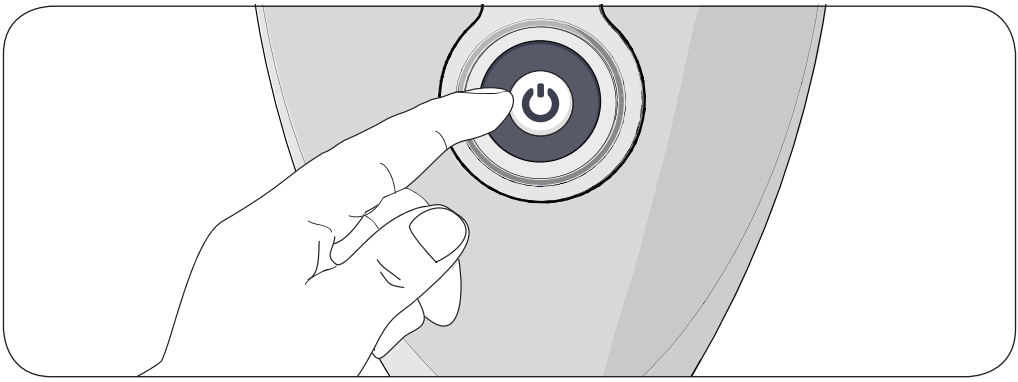


Replacing the filter. Unscrew 2 screws and disconnect the filter. Inspect the O-ring for damage. Clean or replace the filter as necessary. Refit the O-ring and filter making sure it is in the CORRECT POSITION and screwed fully home. **Do not overtighten**



Make sure all plumbing connections are tightly sealed before restoring the water supply
Confirm the cable cover seal is fitted with 5 screws.
Re-prime the shower (Refer Prime the shower Part 1 on page 18.)
Refit the ribbon cable.
Replace the front cover and **all screws** before restoring the power.

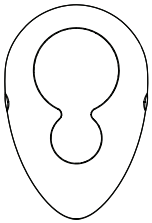
Continue with Commissioning procedures on page 22-25.



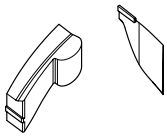
Finish priming the shower, see Part 2 on page 23.

SPARE PARTS

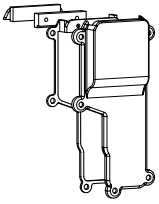
Front Cover
Luda (White)
06-001-300
Luda S (Chrome)
11-008-044



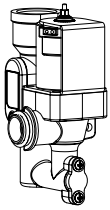
Top and bottom entry covers
Luda (White)
06-001-301
Luda S (Silver)
11-008-045



Inlet cover parts
06-001-302

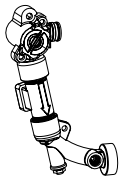


Solenoid valve assembly.
06-001-005

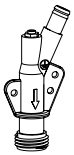


John Guest Fitting
06-001-002

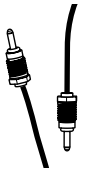
Inlet assembly
06-001-303



Outlet pipe assembly
06-001-191

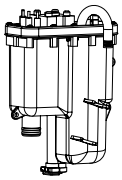


Thermistor sensors Inlet & Outlet
06-001-304



Heater can assembly

10kW
06-001-006
8.5kW
06-001-456



Flexible hose & Fixings
06-001-305

All spare parts must be replaced by suitably qualified service engineer.

Spare Parts can be acquired by contacting customer services, see page 9 of the user instructions.

Pressure Relief Device Ball
06-001-055

Warranty Registration Details

IMPORTANT: TO ACTIVATE YOUR WARRANTY PERIOD YOU MUST REGISTER YOUR PRODUCT WITHIN 30 DAYS!

Please complete the registration card within 30 days and return to us in the prepaid envelope for your Free Warranty to start.

FREE 2-YEAR EXTENDED WARRANTY OFFER

To register for your free 2 year warranty please return the registration card within 30 days of installation. Registration is optional but you will only receive this 2-year extended warranty if you register. Your statutory rights are not affected

To be completed by Installer

Product Identification label can be found on top of the shower case and also on the outer packaging.

Model / Part Number _____

Shower Serial Number (SN) _____

Batch Number (BN) _____

INSTALLED ON _____/_____/_____

INSTALLED BY _____

ADDRESS _____

_____

_____

CONTACT _____

_____

RECORD COMMISSIONING TESTS

BEAB CARE

This appliance has met the performance requirements required by the BEAB CARE Mark. The designation code for this appliance is IW-S. This designation shall match the intended use of the appliance.
Note: All installation, commissioning and in-service testing must be undertaken by a suitably qualified engineer.

COMMISSIONING TESTS

Record the following information to provide a performance reference point for future in-service tests.

Shower Serial Number (SN) _____

Date of Commissioning _____/_____/_____

Max temperature setting is set to 41°C **(YES/NO)**
(See Step 1 of Commissioning section in User Instructions)

Mains Water supply Running Pressure (within range 0.5 to 10 bar) _____ bar

Water supply temperature (within range of 5°C to 20°C) _____ °C

Mains terminal Voltage (within range of 230 Vac ± 10%) _____ Vac

With shower turned on at max flow and max temperature setting, record the water temperature when it is stabilized _____ °C

Record details of test equipment (make, model, serial number and calibration information) used to provide the above information, if necessary record on separate paper and attach to this instruction booklet:

IN-SERVICE ROUTINE TESTS

Record the performance of the shower to monitor the need for service work on the appliance and / or the water supplies.

FREQUENCY OF IN-SERVICE TESTS

The first in-service testing is 6 months from installation. If no significant changes of greater than 1˚C in outlet water temperature are recorded then the in-service test can be completed annually after that.

IN-SERVICE TEST RECORD		6 Months	1 year	2 year	3 year	4 year	5 year
Date							
With voltage supply isolated remove the cover and check	Max temperature setting is set to 41°C (YES / NO)						
	Internal components condition (YES / NO)						
	Remove, check and clean or replace inlet filter (YES / NO)						
Mains Water supply Running Pressure (bar)							
Water supply temperature (°C)							
Mains terminal Voltage (Vac)							
With shower turned on at max flow and max temperature setting, record the water temperature when it is stabilized (°C)							
Serviced by:							

This page may be reproduced for continued recording of in-service testing.

IN-SERVICE ROUTINE TESTS

Use the same test equipment as previously used for commissioning tests.

Measure the shower outlet water temperature by placing a funnel under the flow of water from the showerhead. The funnel shall collect all the water from the showerhead and the water temperature of the collected water flowing from the funnel shall be recorded.

If the set maximum outlet water temperature changes significantly by more than 1°C between commissioning and in-service testing, then check:

a. Isolating valves in the mains water supply to the unit are fully open.

b. The showerhose and showerhead are in good condition and are free from restrictions and limescale.

c. The inlet filter is free from blockage.

NOTES

End of Installation Instructions

AKW
life. style. choice.

UK

AKW Shower Fittings

Models: EC1, EC2 & EC3

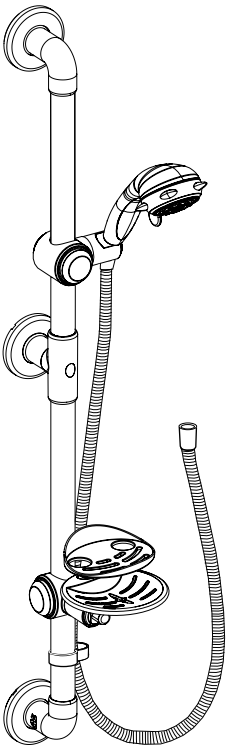
USER

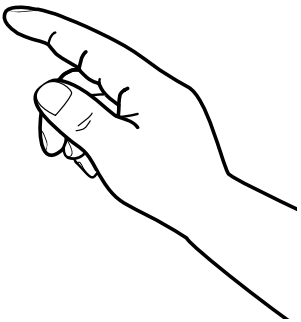
Instructions & Warranty

(For **Installation** Instructions read from back page)

RNIB *

WRAS APPROVED PRODUCT





GB and International Patents Pending, EU Registered design 000688312-0001, US registered design D587,340, International and other Designs Pending.

*Model EC2 does not carry RNIB Ref.

Read all instructions carefully **before** installation. Leave this booklet with the end user for future reference and servicing.

11-008-028-02

Contents	Page
Introduction	2
Shower Head Spray Adjustment	3
Shower Head Fitting and Adjustment	4-5
Soap dish and shelf assembly- Option A	6
Soap dish and shelf assembly- Option B	7
Shower Handset Cleaning Instructions	8
User Fault Diagnosis	9
Warranty	10-11
Contact Information	11

Introduction

This installation must be carried out by a competent trades person and in accordance with these instructions.

The AKW shower handset is designed for reliable and flexible use. The handset provides 5 easily selectable spray patterns. The soap dish and optional shelf are multi-functional and easily adjustable. The shower handset and soap dish can be alternately positioned to allow for a wider range of positions.

⚠ The riser rail can be used as a hand rail. The riser rail is rated to:

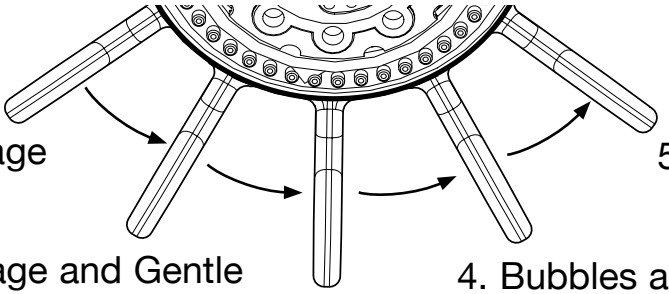
- EC1 (White)- 190kg (419lb) (Luda)
- EC2 (Chrome)- 150kg (330lb) (Luda S)
- EC3 (Chrome)- 150kg (330lb) (Arka)

ONLY when it is correctly installed and fully maintained according to these instructions can it be used as a hand rail.

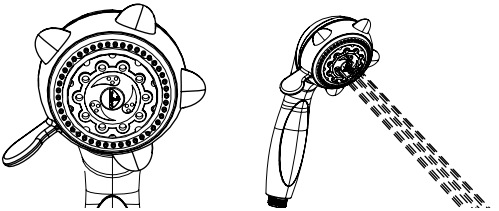
When the shower handset is used with the LUDA AKW Intelligent Shower, the hose may not need to be restrained to the riser rail. (This is common on other showers to prevent backflow and comply with water regulations.) This feature gives greater freedom to the user.

If you experience any difficulties with the operation of the new shower fittings, then please refer to the Fault Diagnosis, before contacting AKW customer services. See contact information and warranty for more information.

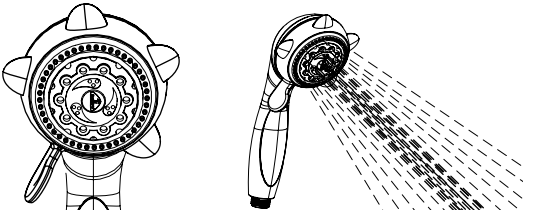
Shower Head Spray Adjustment



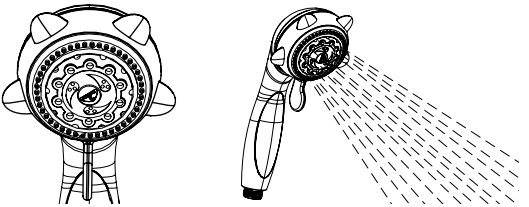
1. Massage
Forceful spray pattern



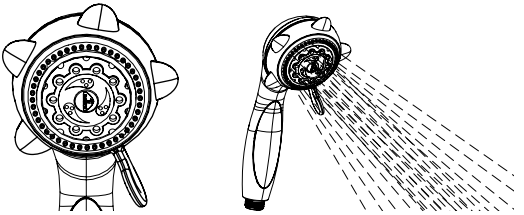
2. Massage and Gentle
Combines Massage and Forceful spray patterns.



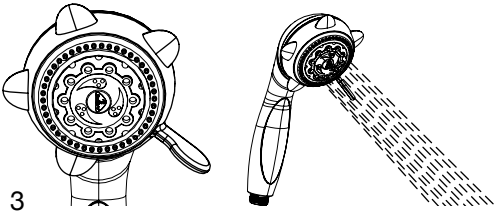
3. Gentle
Fine spray pattern.



4. Bubbles and Gentle
Combines aerated water and gentle spray patterns.



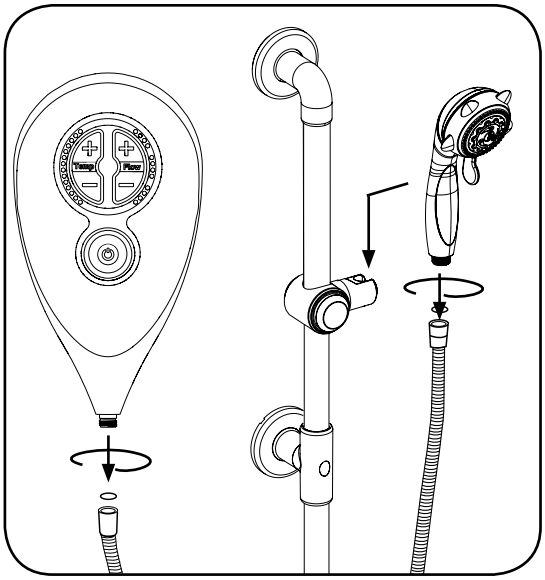
5. Bubbles
Aerated water spray pattern.



Shower Head Fitting and Adjustment

Step 1

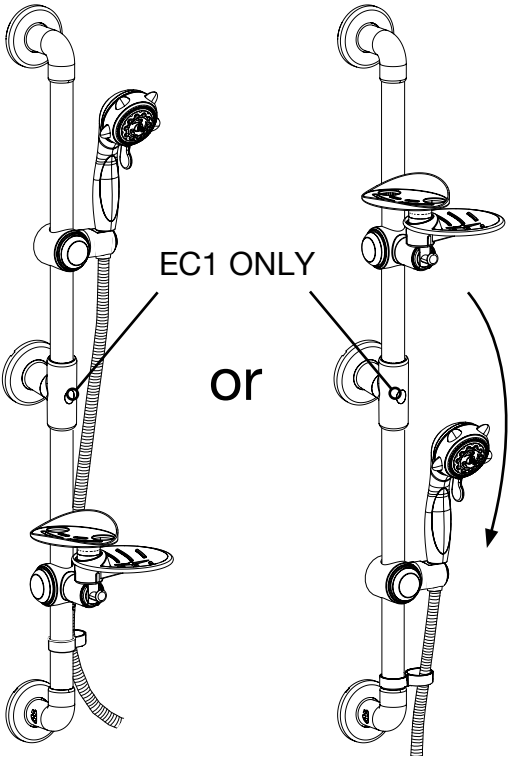
Check hose for blockages.
Flush through with water before connecting.
Connect the hose to the shower heater outlet.
Ensure the hose is firmly fitted.



Step 2

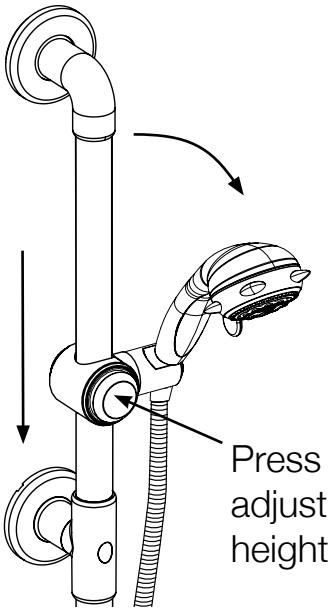
Connect the shower hose to the shower handset.
Make sure the hose washers are fitted.
Do not overtighten.
Attach the handset to the rail slider bracket.
The soap dish and optional shelf can be alternatively positioned above or below the shower handset.

NOTE:
Optional Hose Retainer should be installed to ensure the shower headset cannot reach the toilet, sink or bidet, if the shower is not fitted with double check valves reducing the risk of water contamination.



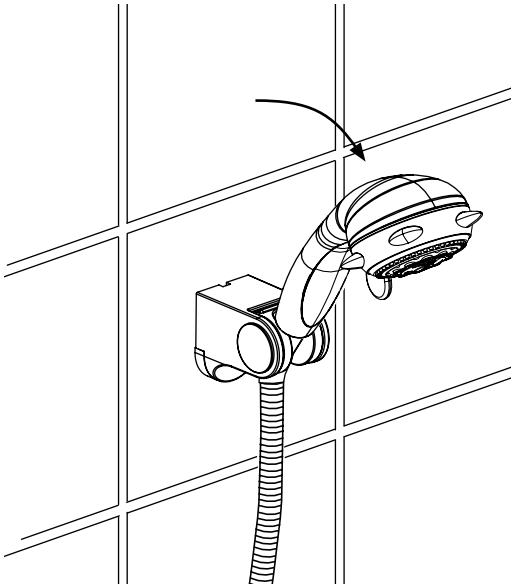
Shower Head Fitting and Adjustment

The shower handset height and angle can be adjusted.



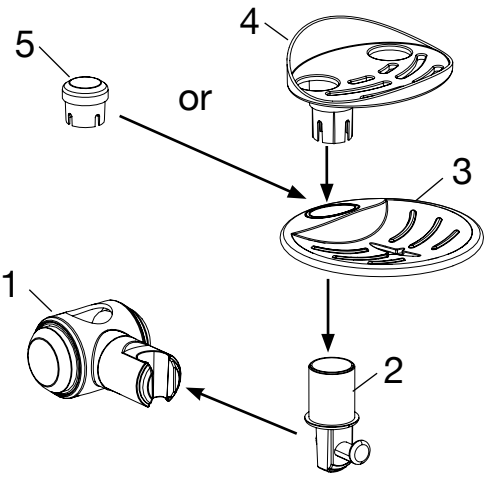
or

The shower handset can be mounted and adjusted on the wall bracket.



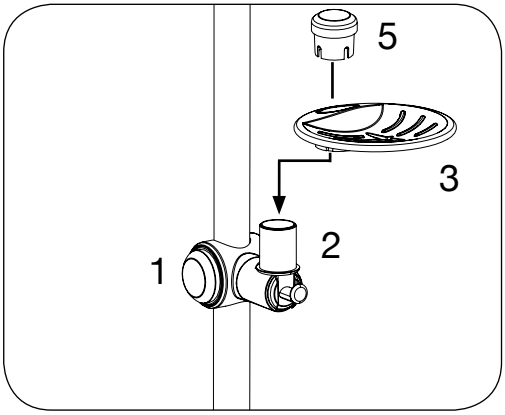
Soap Dish Assembly- Option A

1. Rail Slider
2. Soap Dish Adapter
3. Soap Dish
4. Shelf
5. Soap Dish Cap



Step 1

Locate and push the soap dish adapter (2) into the rail slider (1).

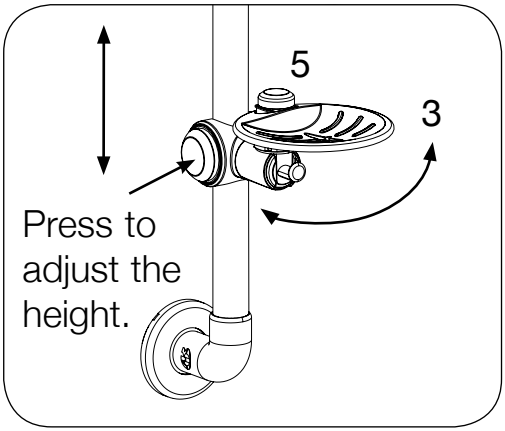


Step 2

Push the soap dish (3) onto the adapter (2) and then place the soap dish cap (5) onto the soap dish.

The soap dish can be rotated on the adapter.

The height of soap dish can be adjusted.

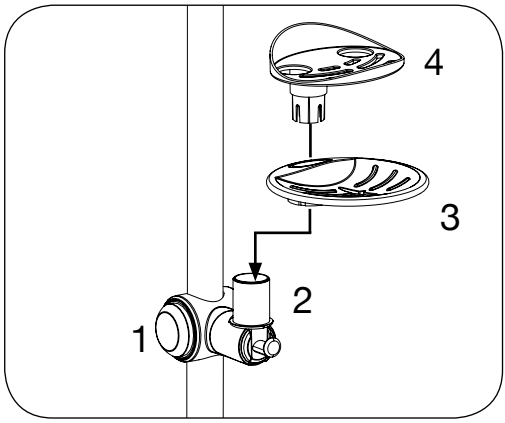


Soap Dish and Shelf Assembly- Option B

Step 1

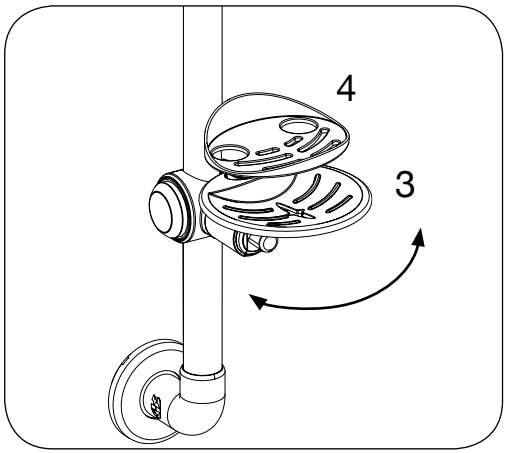
Locate and push the soap dish adapter (2) into the rail slider (1).

Fit the soap dish (3) into the adapter (2).



Step 2

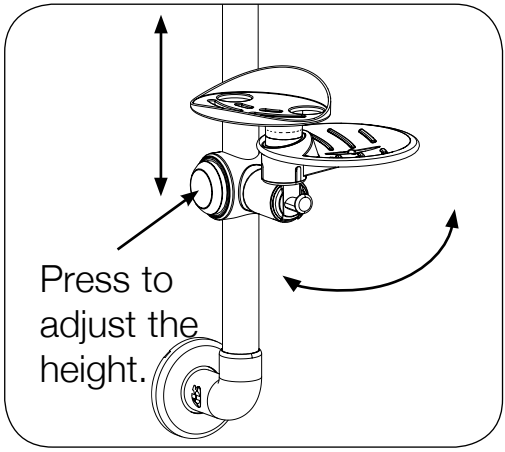
Connect the shelf (4) on to the top of the soap dish (3).



Step 3

The soap dish and shelf can be rotated independently.

The height of soap dish and shelf can be adjusted.



Shower Handset Cleaning Instructions

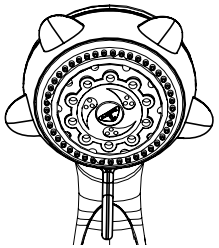
The shower handset spray holes must be kept clear.

Lack of regular shower head cleaning will lead to poor performance and cause premature failure of the showerheater.
Only clean shower handset and other shower fittings with mild detergent, descalent or soap solution.
Do not use abrasive cleaners.
Do not use bleach or bleach based products.

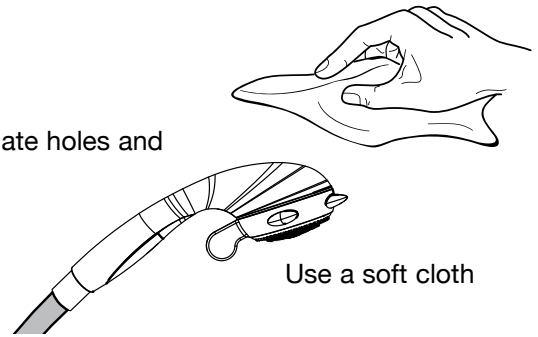
Descaling shower handset

Descale the handset regularly to stop blockages in hard water areas.
Use a descaling product such as Oust® and follow the instructions provided.
Rinse thoroughly and wipe the soft plastic nozzles and jets using a soft cloth or fingers and thumb to remove any remaining limescale.

Flush through with water before operating or connecting to showerheater.
Check for blockages.



Keep spray plate holes and nozzles clear



Use a soft cloth

⚠ Check the shower handset and hose regularly.
Replace any damaged or cracked parts immediately.

User Fault Diagnosis

Follow this chart to identify causes of problems which may occur during use.

Fault	Cause	Remedy
No or low water flow from shower head.	The water supply pressure is low.	Refer to shower installation instructions fault diagnosis.
	The shower head is blocked.	Make sure handset is clear. Refer to cleaning.
	The hose is blocked or twisted.	Clear blockage or replace hose.
	Problem with shower.	Switch off and request service.
Water dripping from the hand set.	Some water is retained in the handset after shower control has been turned off.	This is quite normal. Adjusting the tilt position of the handset will affect draining time.
	Defective shower control	Refer to shower installation instructions fault diagnosis.
The shower temperature changes when the spray positions are adjusted.	The spray head is blocked.	Make sure the handset is unblocked and clean. Refer to cleaning instructions. If problem persists refer to shower installation instructions fault diagnosis.
Shower hose does not fit into clamp bracket properly.	Clamp bracket fitted upside down on the rail. Wrong shower head or hose fitted.	Rotate the clamp bracket 180^{0} and refit. Use only AKW shower spray head and hose set.

WARRANTY

This warranty is in addition to your statutory and other legal rights.

To validate and start the warranty, you must return your completed registration card in the envelope provided.

AKW Ltd guarantee your shower handset and fitting kit against any defects in manufacturing or materials for 2 years from the date of installation. Within this period we will resolve defects free of charge by repairing or replacing as we may choose. To be free of charge work must only be undertaken by AKW or our approved agents in the UK or the Republic of Ireland and with prior agreement.
Any action taken under this warranty does not extend the stated 2-year expiry date.

Not covered by this warranty

Damage or defects arising from incorrect installation, improper use, lack of maintenance including the build-up of limescale or any AKW unauthorised modifications.

Actions taken to dismantle, repair or modify by persons who are not AKW Ltd authorised service staff or agents.
Damage resulting from water freezing.

What to do if something goes wrong.

If your shower does not work correctly first follow the **Fault Finding Chart** on page 9 if the fault persists, then contact your installer.

WARRANTY

Should this not resolve your problem, contact AKW Customer Services who will provide further advice and if necessary arrange for our service engineer to visit, or discuss our comprehensive after-sales service. As part of our quality and training program calls may be monitored or recorded. None of the forgoing affects your statutory rights.

Warranty support and service will be based on answers to these questions on the Fault finding chart.
Incidents identified as due to user omission or failure to maintain the product may be chargeable.

As part of our on-going improvement programme, AKW would appreciate any feedback on these instructions.
If you have any comments please contact us on-
Tel:+44 (0) 1905 823235

CONTACT INFORMATION

Customer Services

AKW,
Pointon Way,
Hampton Lovett,
Droitwich Spa,
WR9 0LR

Email: Sales@akw-ltd.co.uk Tel: 01905 823 299

© 2012 AKW Medi-Care Limited www.akw-ltd.co.uk

End of User Instructions